

### Trend Study 1-5-01

Study site name: Devil's Playground.

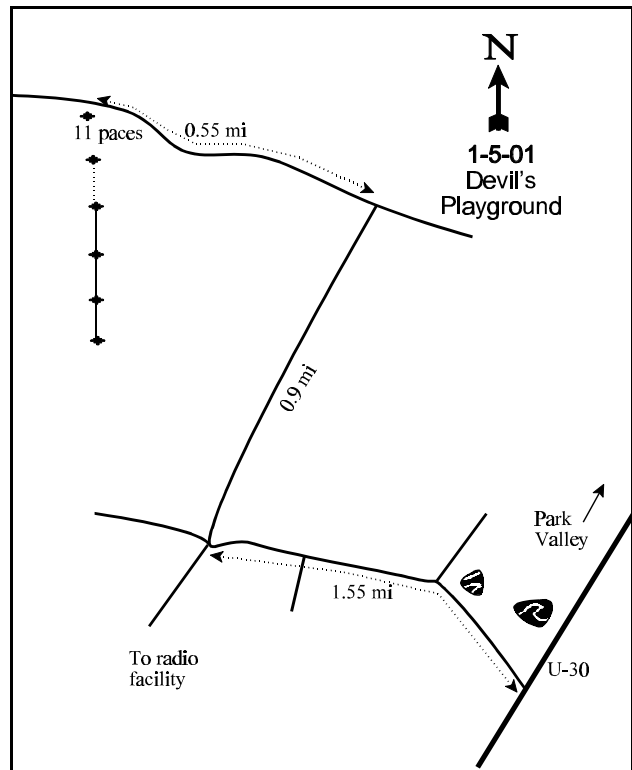
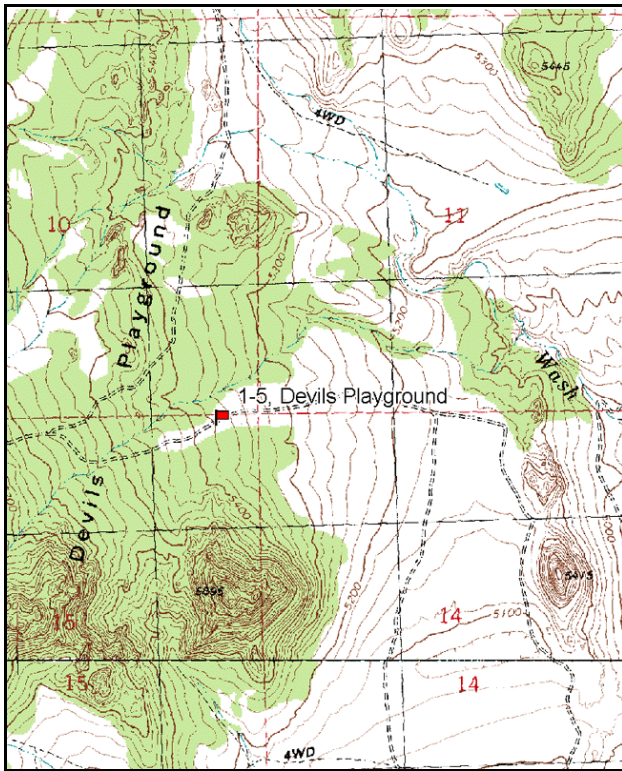
Vegetation type: Black Sagebrush.

Compass bearing: frequency baseline 173 degrees magnetic.

Frequency belt placement: line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

### LOCATION DESCRIPTION

Proceed toward Elko, Nevada on U-30 to mile marker 24 and turn right (west). Travel 1.55 miles to a fork and bear right. Bear right and travel 0.9 miles. Turn left (west) and travel 0.55 miles to rock pile on left side of road. Walk 11 paces southwest from the rock pile to the 0-foot stake of the frequency baseline. The baseline is marked by a red browse tag #708. The azimuth of the baseline is 173 degrees magnetic.



Map Name: Emigrant Pass

Diagrammatic Sketch

Township 9N, Range 16W, Section 15

UTM 4598420 N, 278270 E

## DISCUSSION

### Trend Study No. 1-5

The Devil's Playground study samples what is considered critical deer winter range. This area is on gentle (5% to 10%) east facing slopes interrupted by large granite outcrops. The vegetation is dominated by juniper-pinyon woodland with numerous and various sized openings occupied by black sagebrush and Wyoming sagebrush. The study area is a mixture of sagebrush and pinyon-juniper woodland at about 5,390 feet elevation. Further to the east, vegetation becomes increasingly dominated by black sagebrush in the more shallow soils. To the west and at a higher elevation, juniper-pinyon woodland is associated with significant amounts of sagebrush and bitterbrush. Deer and sheep are the primary forage users. A pellet-group transect read in conjunction with the vegetation transect in 2001 estimated 15 deer days use/acre (36 days use/ha). This area is within the White Lakes allotment which allows 1,500 sheep to use the area from December 1<sup>st</sup> through March 31<sup>st</sup>.

Soil on the site is derived from granite parent material. It is a coarse textured sandy loam which is light colored on the surface, but much darker below. The soil is moderately alkaline (8 pH) with levels of phosphorus at only 3.5 ppm. Values less than 10 ppm may limit normal plant growth and development. Ground cover from vegetation or litter is moderately poor and there are extensive areas of erosion pavement and bare ground between shrubs and trees. The soil appears highly erodible and erosion would increase if the terrain was steeper. The erosion condition class was determined to only be slight in 2001. The soil is moderately deep and well drained. Average effective rooting depth was estimated at 27 inches. Soil temperature is relatively high averaging 60° F at an average depth of 20 inches. Soil temperatures at other sites in the area are also relatively high. The sandy texture and the excessively drained nature of the soil are the main reasons this area is dominated by black sagebrush instead of Wyoming sagebrush.

Browse composition consists chiefly of black sagebrush, interspersed by smaller amounts of narrowleaf low rabbitbrush, prickly phlox, and Wyoming sagebrush. Also present are scattered individuals of Nevada ephedra and spiny hopsage. The black sagebrush population has slowly increased since 1984, from 4,266 plants/acre to 6,380 plants/acre in 2001. The population has good vigor except for some of the decadent individuals. Utilization was noted as heavy in 1984 when 80% of the population displayed heavy use. This is probably one of the factors responsible for partial crown death observed in many of the sagebrush, along with winter injury which occurred to most populations of sagebrush during the bad winters of the early to mid 1980's. Use has been mostly light to moderate since the initial readings. Percent decadence has moderated somewhat since the initial highs in 1984 and 1990 (56% and 82% respectively) to 28% in 2001. The percentage of the decadent plants classified as dying has stayed relatively stable around 25%. Drought combined with the moderately high density of black sagebrush and excessively drained (xeric) characteristics of the soil are likely responsible for this decadence. There are still approximately 510 decadent plants/acre classified as dying. Seedlings and young plants are fairly numerous and in sufficient numbers to maintain the population.

Narrowleaf low rabbitbrush, showed moderate to heavy use in 1984. All other readings show only light use of this less preferred shrub. A few spiny hopsage occur on the site, but none were sampled within the shrub density strips. These shrubs were heavily hedged and appeared to be dying.

The herbaceous understory is fairly diverse but not abundant. Five species of perennial grasses combined to produce about 5% cover in 1996 and 8% cover in 2001. Dominant species include: bluebunch wheatgrass, Sandberg bluegrass, and bottlebrush squirreltail. Annual grasses and forbs are numerous, but not dense enough to constitute a fire hazard. Perennial forbs are diverse yet only produce about 1% to 2% total cover. Most of these are low growing and of little forage value.

## 1984 APPARENT TREND ASSESSMENT

Trend assessment on this site is influenced greatly by animal use associated with excessively harsh winters of 1983-85, soil characteristics, and plant composition. The first factor, animal use, has no doubt had a substantial effect on almost all trend parameters. Use is very heavy and has possibly influenced an unsatisfactory age structure in the key browse species as well as a general depletion of the herbaceous understory. In turn, ground cover and soil organic content have been reduced, which has led to a significant but not extreme rate of soil erosion. One other factor should be considered. The study is within an area where expansion and gradual thickening of the juniper-pinyon type is very likely to occur. Current conditions are such that this process is likely to be enhanced. Both soil and vegetative trends appear to be declining.

## 1990 TREND ASSESSMENT

Black sagebrush has increased slightly in density. Recent use was judged to be light, compared to heavy use by sheep and deer in previous years. This sagebrush population contains a very high number of decadent plants (82%). It still provides most of the cover on the study site, where there is a relatively low density of pinyon and juniper. Surrounding areas support a much higher density of trees, but not usually a closed canopy. There is a vigorous stand of native grasses for a black sagebrush range type. Three out of five perennial grasses increased significantly in nested frequency. Percent bare ground has decreased slightly (36% to 32%) but litter cover decreased substantially (40% to 33%). Soil erosion is still active but is not serious.

### TREND ASSESSMENT

soil - stable but poor condition (3)

browse - slightly down (2)

herbaceous understory - slightly improving but depleted (4)

## 1996 TREND ASSESSMENT

Protective ground cover characteristics have changed somewhat since 1990. Percent bare ground has declined from 32% to 20%, but some of the increase is due to an increase in pavement cover. Pavement and rock cover have increased since 1984 and currently cover nearly 30% of the ground surface. Litter cover has also declined steadily since 1984 (40% to 27%). The soil is very porous due to the sandy texture, however there are some signs of soil pedestalling and an active gully between lines 2 and 3. Trend for soil is considered stable but in poor condition. The browse trend for the key species, black sagebrush is slightly up. Percent decadence has declined from an extremely high 82% in 1990 to 26%. Utilization is moderate with heavy use reported on only 14% of the population. Vigor is good on all but 22% of the decadent sagebrush. The increaser, narrowleaf low rabbitbrush appears to have a stable trend. Spiny hopsage, likely the most preferred browse on the site, occurs in small numbers and appears to be dying out due to heavy use and lack of reproduction. Trend for the herbaceous understory is mixed. Trend for grasses is down slightly due to decline in the sum of nested frequency of perennial species. However, only 2 species declined significantly, bottlebrush squirreltail and Thurber needlegrass. The most abundant perennial species, Sandberg bluegrass, declined slightly in nested frequency but the change was not significant. Trend for forbs is up with an increase in diversity and sum of nested frequency of perennial species. Since forbs contribute little to the total herbaceous cover on the site, the overall herbaceous trend is considered stable.

### TREND ASSESSMENT

soil - stable but in poor condition (3)

browse - up slightly (4)

herbaceous understory - stable (3)

## 2001 TREND ASSESSMENT

Protective ground cover characteristics have remained almost unchanged since 1996. Percent bare ground has declined slightly, but some of the change is due to an increase in pavement cover. Pavement and rock cover have continually increased since 1984 and currently cover nearly 33% of the ground surface. Litter cover has declined steadily since 1984 except for a slight increase in 2001. The soil is very porous due to the sandy texture, however there are some signs of soil pedestalling and an active gully between lines 2 and 3. Trend for soil is considered stable but in poor condition. The browse trend for the key species, black sagebrush, is slightly up. Percent decadence has remained relatively low since 1996. Utilization is light to moderate with heavy use reported on only 17% of the population. Vigor is good on all but 10% of the decadent sagebrush. The increaser, narrowleaf low rabbitbrush, appears to have a stable trend. Spiny hopsage, likely the most preferred browse on the site, occurs in very small numbers and appears to continue slowly dying out due to excessive use, drought, and lack of reproduction. Trend for the herbaceous understory is mixed. Trend for perennial grasses is fairly stable while trend for perennial forbs is down. However forbs make up only 7% of the herbaceous cover. Since forbs contribute little to the total herbaceous cover on the site, trend is still considered stable.

### TREND ASSESSMENT

soil - stable but in poor condition (3)

browse - slightly up (4)

herbaceous understory - stable (3)

### HERBACEOUS TRENDS --

Herd unit 01 , Study no: 5

Type	Species	Nested Frequency				Quadrat Frequency				Average Cover %	
		'84	'90	'96	'01	'84	'90	'96	'01	'96	'01
G	Agropyron spicatum	<sub>a</sub> 28	<sub>b</sub> 56	<sub>ab</sub> 46	<sub>ab</sub> 35	14	22	20	13	1.00	2.26
G	Bromus tectorum (a)	-	-	<sub>a</sub> 97	<sub>b</sub> 284	-	-	45	91	.37	5.21
G	Oryzopsis hymenoides	<sub>a</sub> 4	<sub>b</sub> 17	<sub>ab</sub> 18	<sub>ab</sub> 5	2	10	9	3	.66	.09
G	Poa secunda	<sub>a</sub> 53	<sub>b</sub> 162	<sub>b</sub> 148	<sub>b</sub> 142	26	66	60	54	2.90	3.42
G	Sitanion hystrix	<sub>b</sub> 114	<sub>b</sub> 100	<sub>a</sub> 56	<sub>a</sub> 43	50	49	30	19	.66	.40
G	Stipa thurberiana	<sub>b</sub> 11	<sub>bc</sub> 22	<sub>a</sub> -	<sub>c</sub> 34	5	11	-	16	-	1.71
G	Vulpia octoflora (a)	-	-	<sub>a</sub> 78	<sub>b</sub> 145	-	-	32	60	.16	.52
Total for Annual Grasses		0	0	175	429	0	0	77	151	0.53	5.74
Total for Perennial Grasses		210	357	268	259	97	158	119	105	5.23	7.89
Total for Grasses		210	357	443	688	97	158	196	256	5.76	13.63

Type	Species	Nested Frequency				Quadrat Frequency				Average Cover %	
		'84	'90	'96	'01	'84	'90	'96	'01	'96	'01
F	Agoseris glauca	a-	a-	b17	a-	-	-	7	-	.03	-
F	Astragalus beckwithii	2	7	3	4	1	2	3	1	.04	.15
F	Aster spp.	a-	a-	b76	a-	-	-	33	-	.16	-
F	Astragalus utahensis	10	14	11	2	5	7	6	1	.08	.06
F	Castilleja chromosa	b11	ab1	ab7	a-	6	1	3	-	.06	-
F	Chaenactis douglasii	b22	ab4	b28	a3	11	4	12	1	.08	.00
F	Collinsia parviflora (a)	-	-	-	3	-	-	-	1	-	.00
F	Crepis acuminata	-	-	3	-	-	-	1	-	.03	-
F	Cruciferae (a)	-	-	b31	a-	-	-	14	-	.07	-
F	Cryptantha spp.	a-	a4	b93	a-	-	2	37	-	.36	-
F	Delphinium nuttallianum	-	-	3	2	-	-	1	1	.00	.03
F	Descurainia pinnata (a)	-	-	4	11	-	-	2	6	.01	.03
F	Eriogonum cernuum (a)	a1	ab6	b10	a-	1	3	5	-	.02	-
F	Eriogonum ovalifolium	-	-	13	-	-	-	5	-	.05	-
F	Galium aparine (a)	-	-	-	3	-	-	-	1	-	.00
F	Gayophytum ramosissimum (a)	-	-	35	18	-	-	14	9	.09	.04
F	Gilia spp. (a)	-	-	21	30	-	-	8	16	.04	.08
F	Lappula occidentalis (a)	-	-	-	8	-	-	-	5	-	.02
F	Lomatium spp.	-	-	4	4	-	-	1	3	.00	.16
F	Lygodesmia spinosa	-	-	-	-	-	-	-	-	.00	-
F	Navarretia intertexta (a)	-	-	b78	a-	-	-	34	-	.17	-
F	Phlox hoodii	-	8	4	1	-	4	2	1	.03	.03
F	Phlox longifolia	ab35	a23	ab35	b49	17	12	16	29	.10	.40
F	Phlox spp.	a-	a-	c102	b31	-	-	37	16	.43	.08
F	Townsendia spp.	-	2	-	-	-	1	-	-	-	-
F	Tragopogon dubius	b13	a-	a2	a-	6	-	1	-	.03	-
Total for Annual Forbs		1	6	148	73	1	3	63	38	0.34	0.18
Total for Perennial Forbs		93	63	432	96	46	33	179	53	1.60	0.91
Total for Forbs		94	69	580	169	47	36	242	91	1.94	1.10

Values with different subscript letters are significantly different at alpha = 0.10 (annuals excluded)

BROWSE TRENDS --

Herd unit 01 , Study no: 5

Type	Species	Strip Frequency		Average Cover %	
		'96	'01	'96	'01
B	Artemisia nova	86	84	11.55	13.55
B	Artemisia tridentata wyomingensis	7	5	.60	.15
B	Chrysothamnus viscidiflorus stenophyllus	50	45	1.50	2.54
B	Juniperus osteosperma	3	7	4.88	3.77
B	Leptodactylon pungens	10	12	.16	.03
B	Opuntia polyacantha	1	3	-	.01
B	Pinus monophylla	2	1	.00	.38
B	Symphoricarpos oreophilus	1	1	-	-
Total for Browse		160	158	18.70	20.45

CANOPY COVER --

Herd unit 01 , Study no: 5

Species	Percent Cover		Trees per Acre		Average diameter (in)	
	'96	'01	'96	'01	'96	'01
Juniperus osteosperma	11	13	39	76	13.2	7.0
Pinus monophylla	-	-	9	49	4.6	2.1

BASIC COVER --

Herd unit 01 , Study no: 5

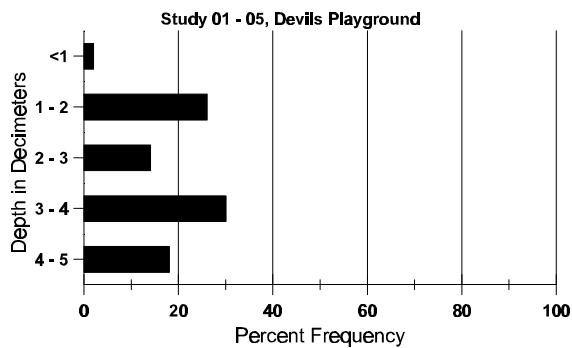
Cover Type	Nested Frequency		Average Cover %			
	'96	'01	'84	'90	'96	'01
Vegetation	310	327	2.50	8.25	25.64	38.59
Rock	121	19	.25	.50	1.48	.38
Pavement	341	317	20.75	25.00	27.95	32.52
Litter	371	326	39.75	33.00	27.04	29.48
Cryptogams	45	59	1.25	1.50	.72	1.59
Bare Ground	275	226	35.50	31.75	19.56	16.53

# SOIL ANALYSIS DATA --

Herd Unit 01, Study no: 05, Devils Playground

Effective rooting depth (in)	Temp °F (depth)	PH	%sand	%silt	%clay	%OM	PPM P	PPM K	dS/m
26.2	59.6 (19.7)	8.0	65.7	17.0	17.3	.98	3.5	92.8	.5

## Stoniness Index



## PELLET GROUP FREQUENCY --

Herd unit 01 , Study no: 5

Type	Quadrat Frequency	
	'96	'01
Sheep	-	1
Rabbit	32	7
Elk	2	-
Deer	44	24

Pellet Transect	
Pellet Groups per Acre	Days Use per Acre (ha)
'01	'01
-	-
104	N/A
-	-
191	15 (36)

BROWSE CHARACTERISTICS --

Herd unit 01 , Study no: 5

A G R E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total
		1	2	3	4	5	6	7	8	9	1	2	3	4			
Artemisia nova																	
S	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	90	1	-	-	-	-	-	-	-	-	1	-	-	-	66		1
	96	5	-	-	-	-	-	-	-	-	5	-	-	-	100		5
	01	3	-	-	-	-	-	-	-	-	3	-	-	-	60		3
Y	84	1	4	2	-	-	-	-	-	-	7	-	-	-	466		7
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	96	8	14	-	-	-	-	-	-	-	22	-	-	-	440		22
	01	6	-	-	-	-	-	-	-	-	6	-	-	-	120		6
M	84	-	3	18	-	-	-	-	-	-	20	-	1	-	1400	9 16	21
	90	13	-	-	1	-	-	-	-	-	14	-	-	-	933	10 15	14
	96	19	122	33	1	20	3	-	-	-	198	-	-	-	3960	9 23	198
	01	80	91	45	8	-	-	-	-	-	219	5	-	-	4480	10 21	224
D	84	-	4	31	1	-	-	-	-	-	24	-	12	-	2400		36
	90	64	1	-	-	-	-	-	-	-	48	-	-	17	4333		65
	96	11	56	6	3	2	-	-	-	-	61	-	-	17	1560		78
	01	47	23	10	9	-	-	-	-	-	58	-	5	26	1780		89
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	740		37
	01	3	-	-	-	-	-	-	-	-	-	-	-	3	640		32
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
'84		17%			80%			20%			+19%						
'90		01%			00%			22%			+12%						
'96		72%			14%			06%			+ 7%						
'01		36%			17%			10%									
Total Plants/Acre (excluding Dead & Seedlings)												'84	4266	Dec:	56%		
												'90	5266		82%		
												'96	5960		26%		
												'01	6380		28%		



A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches)		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4		Ht.	Cr.	
Artemisia tridentata wyomingensis																		
S	84	-	1	-	-	-	-	-	-	-	1	-	-	-	66		1	
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
Y	84	-	-	1	-	-	-	-	-	-	1	-	-	-	66		1	
	90	1	-	-	-	-	-	-	-	-	1	-	-	-	66		1	
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
M	84	-	1	-	-	-	-	-	-	-	1	-	-	-	66	20	25	1
	90	1	-	-	-	-	-	-	-	-	1	-	-	-	66	21	29	1
	96	5	6	-	-	-	-	-	-	-	11	-	-	-	220	21	39	11
	01	5	-	-	-	-	-	-	-	-	5	-	-	-	100	35	41	5
D	84	-	3	-	-	-	-	-	-	-	3	-	-	-	200		3	
	90	1	2	-	-	-	-	-	-	-	2	1	-	-	200		3	
	96	-	2	-	-	-	-	-	-	-	2	-	-	-	40		2	
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	20		1	
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'84		80%			20%			00%			+ 0%							
'90		40%			00%			00%			-22%							
'96		62%			00%			00%			-62%							
'01		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'84	332	Dec:	60%			
												'90	332		60%			
												'96	260		15%			
												'01	100		0%			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches)		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4		Ht.	Cr.	
Chrysothamnus viscidiflorus stenophyllus																		
S	84	2	-	-	-	-	-	-	-	-	2	-	-	-	133		2	
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
Y	84	6	1	1	-	-	-	-	-	-	8	-	-	-	533		8	
	90	17	-	-	1	-	-	-	-	-	18	-	-	-	1200		18	
	96	6	-	-	1	-	-	-	-	-	7	-	-	-	140		7	
	01	5	-	-	-	-	-	-	-	-	5	-	-	-	100		5	
M	84	3	5	8	-	-	-	-	-	-	16	-	-	-	1066	10	16	
	90	10	1	-	5	-	-	-	-	-	16	-	-	-	1066	15	16	
	96	61	5	-	10	-	-	1	-	-	77	-	-	-	1540	9	77	
	01	51	2	-	4	-	-	-	-	-	54	3	-	-	1140	9	57	
D	84	-	3	2	-	-	-	-	-	-	4	-	1	-	333		5	
	90	1	-	-	-	-	-	-	-	-	1	-	-	-	66		1	
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	01	15	1	-	-	-	-	-	-	-	13	-	-	3	320		16	
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	20		1	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'84		31%			38%			03%			+17%							
'90		03%			00%			00%			-28%							
'96		06%			00%			00%			- 7%							
'01		04%			00%			04%										
Total Plants/Acre (excluding Dead & Seedlings)												'84	1932	Dec:	17%			
												'90	2332		3%			
												'96	1680		0%			
												'01	1560		21%			
Ephedra nevadensis																		
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0	16	0	
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0	15	0	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'84		00%			00%			00%										
'90		00%			00%			00%										
'96		00%			00%			00%										
'01		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'84	0	Dec:	-			
												'90	0		-			
												'96	0		-			
												'01	0		-			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Grayia spinosa																		
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0	31	35	0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
% Plants Showing		<u>Moderate Use</u>				<u>Heavy Use</u>				<u>Poor Vigor</u>				<u>%Change</u>				
'84		00%				00%				00%								
'90		00%				00%				00%								
'96		00%				00%				00%								
'01		00%				00%				00%								
Total Plants/Acre (excluding Dead & Seedlings)												'84	0	Dec:	-			
												'90	0		-			
												'96	0		-			
												'01	0		-			
Juniperus osteosperma																		
S	84	1	-	-	-	-	-	-	-	-	1	-	-	-	66			1
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
Y	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	01	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	3	-	-	-	-	-	-	-	-	3	-	-	-	60	-	-	3
	01	6	-	-	-	-	-	-	-	-	6	-	-	-	120	-	-	6
% Plants Showing		<u>Moderate Use</u>				<u>Heavy Use</u>				<u>Poor Vigor</u>				<u>%Change</u>				
'84		00%				00%				00%								
'90		00%				00%				00%								
'96		00%				00%				00%				+63%				
'01		00%				00%				00%								
Total Plants/Acre (excluding Dead & Seedlings)												'84	0	Dec:	-			
												'90	0		-			
												'96	60		-			
												'01	160		-			

A G R E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Leptodactylon pungens																		
Y	84	7	-	-	-	-	-	-	-	-	7	-	-	-	466		7	
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	96	2	-	-	-	-	-	2	-	-	4	-	-	-	80		4	
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
M	84	1	-	-	-	-	-	-	-	-	1	-	-	-	66	4	4	
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	
	96	11	-	-	1	-	-	-	-	-	12	-	-	-	240	9	11	
	01	15	-	-	6	-	-	-	-	-	21	-	-	-	420	9	12	
D	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	96	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2	
	01	5	-	-	-	-	-	-	-	-	5	-	-	-	100		5	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'84		00%			00%			00%										
'90		00%			00%			00%										
'96		00%			00%			00%			+31%							
'01		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'84	532	Dec:	0%			
												'90	0		0%			
												'96	360		11%			
												'01	520		19%			
Opuntia polyacantha																		
Y	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	90	1	-	-	-	-	-	-	-	-	1	-	-	-	66		1	
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	
	96	1	-	-	-	-	-	-	-	-	1	-	-	-	20	5	7	
	01	6	-	-	-	-	-	-	-	-	6	-	-	-	120	7	9	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'84		00%			00%			00%										
'90		00%			00%			00%			-70%							
'96		00%			00%			00%			+83%							
'01		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'84	0	Dec:	-			
												'90	66		-			
												'96	20		-			
												'01	120		-			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Pinus monophylla																		
S	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	96	-	-	-	1	-	-	-	-	-	1	-	-	-	20		1	
	01	5	-	-	-	-	-	-	-	-	5	-	-	-	100		5	
Y	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	96	-	-	-	-	-	-	1	-	-	1	-	-	-	20		1	
	01	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	96	1	-	-	-	-	-	-	-	-	1	-	-	-	20	-	1	
	01	-	-	-	-	-	-	-	-	-	-	-	-	-	0	10	0	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'84		00%			00%			00%										
'90		00%			00%			00%										
'96		00%			00%			00%			-50%							
'01		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'84	0	Dec:	-			
												'90	0		-			
												'96	40		-			
												'01	20		-			
Symphoricarpos oreophilus																		
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	96	-	1	-	-	-	-	-	-	-	1	-	-	-	20	16	1	
	01	2	-	-	-	-	-	-	-	-	2	-	-	-	40	-	2	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'84		00%			00%			00%										
'90		00%			00%			00%										
'96		100%			00%			00%			+50%							
'01		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'84	0	Dec:	-			
												'90	0		-			
												'96	20		-			
												'01	40		-			